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10/551,529

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Arto Koponen

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02/22/2011

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EXAMINER

STRIMBU, GREGORY J

ART UNIT

PAPER NUMBER

3634

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,529	<b>Applicant(s)</b> KOPONEN, ARTO	
	<b>Examiner</b> Gregory J. Strimbu	<b>Art Unit</b> 3634	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13, 14, 16-19 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13, 14, 16-19 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/3/11</u> . | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

The request filed on January 3, 2011 for a Request for Continuing Examination (RCE) under 37 CFR 1.114 is acceptable and an RCE has been established. Any previous finality is hereby withdrawn and a new action on the merits follows. Any newly-submitted claims have been added. An action on the RCE follows.

***Information Disclosure Statement***

The information disclosure statement filed January 3, 2011 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the German and European references cited therein have not been considered.

***Claim Rejections - 35 USC § 112***

Claims 13-19 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Recitations such as "rotational freedom" on line 8 of claim 13 render the claims indefinite because it is unclear what the applicant is attempting to set forth. It appears that the potentiometer shaft and the operation shaft are rotationally fixed so that one cannot rotate without rotating the other. However, the use of the term "freedom" implies

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that the potentiometer shaft and the operation shaft can rotate independently of one another. Recitations such as “door position” on line 11 of claim 13 are grammatically awkward and confusing.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 14, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moll (US 6223469) in view of Callahan (US 5201380). Moll discloses a swing door apparatus for controlling movement of a swing door 53, the swing door apparatus comprising

a swing arm 128 for connection to the swing door 53,

an operation shaft 22 connected to the swing arm whereby the operation shaft turns in accordance with the movement of the swing door,

a potentiometer shaft 8 coupled to the operation shaft 22 whereby the potentiometer shaft turns in accordance with the turning movement of the operation shaft, the potentiometer shaft having rotational freedom corresponding to the swinging movement of the swing door from a closed position to a fully open position, and

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a potentiometer 11 coupled with the common potentiometer shaft and providing a signal that depends on door position (see column 3, lines 20-23 and column 7, lines 19-20). Moll is silent concerning two potentiometers.

However, Callahan discloses a common potentiometer shaft 20 having first 36 and second 38 potentiometers coupled thereto, the first and second potentiometers having at least substantially identical characteristic curves as shown in figure 2, wherein the characteristic curve of each potentiometer is linear over a range 101 having a magnitude at least as great as a range that substantially corresponds to the swinging movement of the door from its closed position to its fully open position (see column 3, line 64 to column 4, line 6) and also includes a discontinuity 103, and wherein the potentiometers are arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one another as shown in figure 2 and set forth in column 4, lines 51-55), whereby the signals provided by the first and second potentiometers during the movement of the swing door are shifted in phase with respect to one another, and wherein the apparatus comprises a control unit 50 which selects either the first potentiometer or the second potentiometer for the detection of door position so that the detection of door position is performed within the linear range of the selected potentiometer (see column 5, lines 63-65 and column 6, lines 66-67);

wherein the respective characteristic curves are shifted in phase with respect to one another by substantially  $180^\circ$  as set forth in column 4, lines 51-55 (claim 14);

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comprising an electric motor 10 coupled drivingly to said operation shaft and a power source 52 for supplying power to the electric motor, and wherein said potentiometers receive power from said power source (claim 18).

It would have been obvious to one of ordinary skill in the art to provide Moll with a sensory system, as taught by Callahan, to provide for the operation of the door apparatus should one of the sensors fail as set forth in column 2, lines 32-34 and to ensure that a voltage output from one of the potentiometers is always available as set forth in column 4, line 63 to column 5, line 3.

Claims 13, 14, 16, 17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al. (US 6002217) in view of Moll and Callahan. Stevens et al. discloses a swing door apparatus for controlling movement of a swing door (not shown, but see column 1, line 12 and column 3, line 36), the swing door apparatus comprising

an operation shaft 128 whereby the operation shaft turns in accordance with the movement of the swing door, a potentiometer shaft (not numbered, but comprising the shaft of the potentiometer 130 as shown in figure 1) coupled to the operation shaft 128 whereby the potentiometer shaft turns in accordance with the turning movement of the operation shaft, the potentiometer shaft having rotational freedom corresponding to the swinging movement of the swing door from a closed position to a fully open position, and

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a potentiometer 130 coupled with the potentiometer shaft and providing a signal that depends on door position;

wherein the potentiometer shaft is mounted to a drive wheel 132 which is mechanically coupled to said operation shaft 128 for turning the potentiometer shaft (claim 16);

wherein the drive wheel 132 is a gear that is in meshing engagement with a gear 136 attached to the operation shaft 128 (claim 17);

wherein the potentiometer shaft is parallel to, and laterally spaced from, the operation shaft 128 as shown in figure 1 and is connected to the operation shaft by a first gear wheel 132 that is connected to the potentiometer shaft and a second gear wheel 136 that is connected to the operation shaft 128 and is in meshing engagement with the first gear wheel 132 (claim 22). Stevens et al. is silent concerning a swing arm and first and second potentiometers.

However, Moll discloses a swing door apparatus comprising a swing arm 128 for connection to a swing door 53 and an operation shaft 22 connected to the swing arm 128, whereby the operation shaft turns in accordance with the movement of the swing door.

It would have been obvious to one of ordinary skill in the art to provide Stevens et al. with a swing arm, as taught by Moll, to reliably and directly connect the swing door apparatus to the swing door.

Additionally, Callahan discloses a common potentiometer shaft 20 having first 36 and second 38 potentiometers coupled thereto, the first and second potentiometers

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having at least substantially identical characteristic curves as shown in figure 2, wherein the characteristic curve of each potentiometer is linear over a range 101 having a magnitude at least as great as a range that substantially corresponds to the swinging movement of the door from its closed position to its fully open position (see column 3, line 64 to column 4, line 6) and also includes a discontinuity 103, and wherein the potentiometers are arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one another as shown in figure 2 and set forth in column 4, lines 51-55), whereby the signals provided by the first and second potentiometers during the movement of the swing door are shifted in phase with respect to one another, and wherein the apparatus comprises a control unit 50 which selects either the first potentiometer or the second potentiometer for the detection of door position so that the detection of door position is performed within the linear range of the selected potentiometer (see column 5, lines 63-65 and column 6, lines 66-67);

wherein the respective characteristic curves are shifted in phase with respect to one another by substantially  $180^\circ$  as set forth in column 4, lines 51-55 (claim 14);

comprising an electric motor 10 coupled drivingly to said operation shaft and a power source 52 for supplying power to the electric motor, and wherein said potentiometers receive power from said power source (claim 18).

It would have been obvious to one of ordinary skill in the art to provide Stevens et al. with the sensor system, as taught by Callahan, to provide for the operation of the door apparatus should one of the sensors fail as set forth in column 2, lines 32-34 and



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to ensure that a voltage output from one of the potentiometers is always available as set forth in column 4, line 63 to column 5, line 3.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moll in view of Callahan as applied to claims 13, 14, 18, 23 and 24 above, and further in view of Mucher (US 2434248). Mucher discloses a body structure 5, 6 to which potentiometers are attached, and wherein each potentiometer has a slider member 12 connected to a potentiometer shaft 8, 9 for turning therewith.

It would have been obvious to one of ordinary skill in the art to provide Moll, as modified above, with a body structure and slider members, as taught by Mucher, to reduce the amount of space required to mount the potentiometers.

### ***Response to Arguments***

Applicant's arguments filed January 3, 2011 have been fully considered but they are not persuasive. Callahan discloses the use of two potentiometers 36 and 38 at least to provide a redundant potentiometer should one of the sensors fail. With two sensors, one of the potentiometers could fail and the system would still be able to operate. See column 2, lines 32-34. One of ordinary skill in the art would provide the door apparatus of Moll or Stevens et al. with the sensor system, as taught by Callahan, at least for the reason of providing an additional potentiometer should one of the potentiometers fail. It should be noted that the motivation to combine the teachings of

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references in a 35 USC 103 rejection does not have to be the same motivation that prompted the applicant to combine the teachings to arrive at his invention.

***Conclusion***

**THIS ACTION IS NOT MADE FINAL.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Strimbu whose telephone number is 571-272-6836. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached on 571-272-7069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory J. Strimbu/  
Primary Examiner, Art Unit 3634